

USFW KOOTENAI NATIONAL WILDLIFE REFUGE SOURCE WATER ASSESSMENT REPORT

November 9, 2000



State of Idaho Department of Environmental Quality

Disclaimer: This publication has been developed as part of an informational service for the source water assessments of public water systems in Idaho and is based on data available at the time and the professional judgement of the staff. Although reasonable efforts have been made to present accurate information, no guarantees, including expressed or implied warranties of any kind, are made with respect to this publication by the State of Idaho or any of its agencies, employees, or agents, who also assume no legal responsibility for the accuracy of presentations, comments, or other information in this publication. The assessment is subject to modification if new data is produced.

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your particular drinking water source is based on a land use inventory within a 1,000 foot radius of your drinking water source, sensitivity factors associated with the source and characteristics associated with either your aquifer or watershed in which you live.

This report, *Source Water Assessment for USFW Kootenai National Wildlife Refuge (1110032)*, located near Bonners Ferry, Idaho, describes the public drinking water system, the associated potential contaminant sources located within a 1,000' boundary around the drinking water source, and the susceptibility (risk) that may be associated with any associated potential contaminants. This assessment should be used as a planning tool, taken into account with local knowledge and concerns, to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and is not intended to undermine the confidence in your water system.**

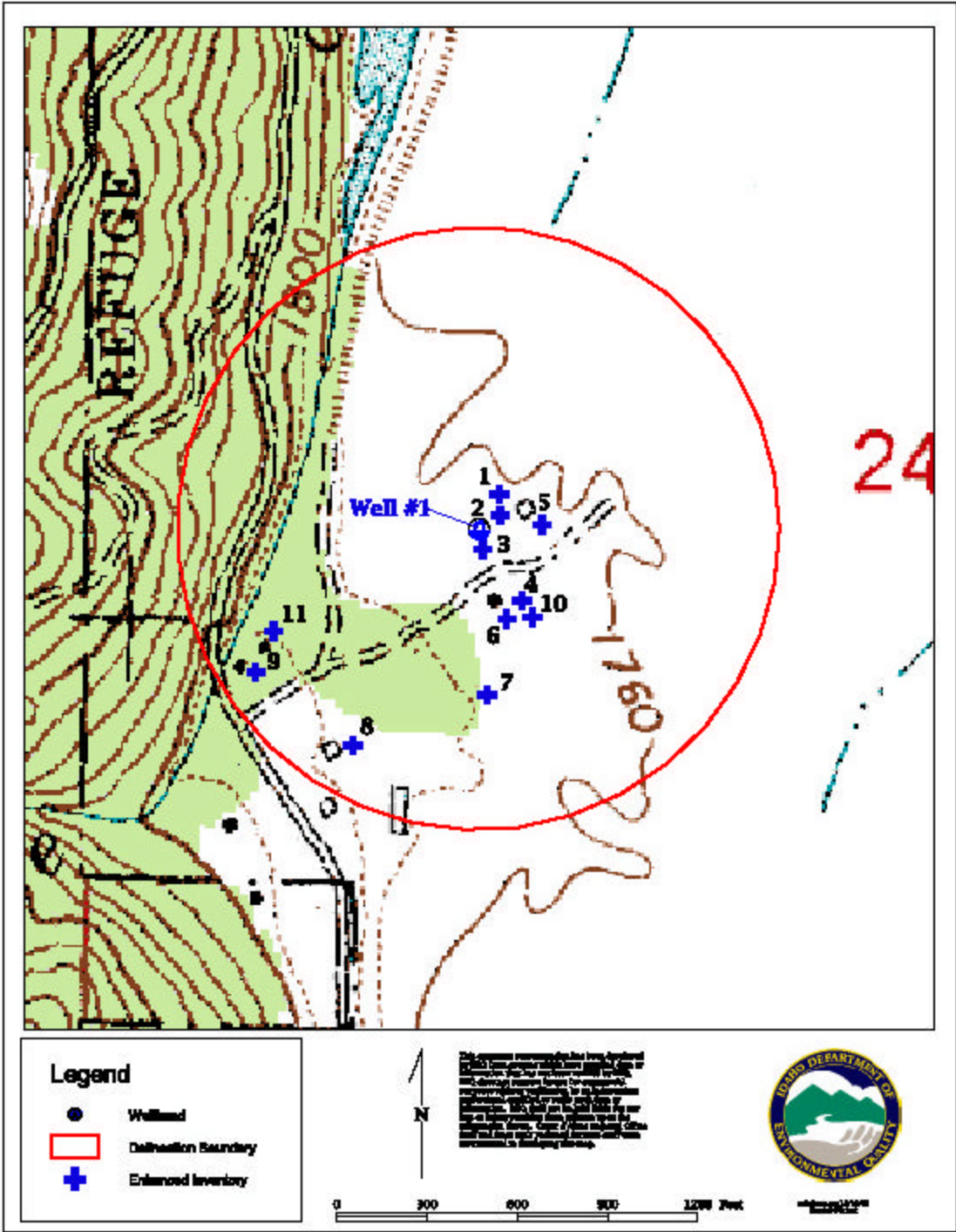
The USFW Kootenai National Wildlife Refuge drinking water system consists of one well, which is in excellent condition due to its age, having been drilled in 1990. The well is located in the maintenance area of the refuge, near above ground fuel storage tanks, an auto repair area and fertilizer, pesticide, and petroleum storage and transfer areas. Although none of these potential sources of contamination are located in zone 1A (a 50' radius), their presence gives the well a moderate susceptibility rating for inorganic chemicals (IOC), synthetic organic chemicals (SOC), and volatile organic chemicals (VOC). The number of septic tanks in the source water area results in the well receiving a high susceptibility rating in the microbial category. These scores were further increased due to the fact that the well does not meet current construction standards. The six inch well casing has a thickness of .250". Current standards require six inch steel well casings to be .280" thick.* A copy of the susceptibility analysis for your system along with a map showing any potential contaminant sources is included with this summary. Information regarding the potential contaminants within the 1,000' boundary have been summarized and included in Table 1.

Table 1.

SITE #	Source Description	Source of Information	Potential Contaminants
1	Auto repair shop	Enhanced Inventory	VOC
2	Pesticide, fertilizer, petroleum storage and transfer area	Enhanced Inventory	SOC, VOC
3	Above ground fuel storage tanks	Enhanced Inventory	VOC
4	State Fisheries Research Station	Enhanced Inventory	SOC
5	Septic system	Enhanced Inventory	Microbial
6	Septic system	Enhanced Inventory	Microbial
7	Septic system	Enhanced Inventory	Microbial
8	Septic system	Enhanced Inventory	Microbial
9	Septic system	Enhanced Inventory	Microbial
10	Historical septic system	Enhanced Inventory	Microbial
11	Historical septic system	Enhanced Inventory	Microbial

IOC = inorganic chemical, VOC = volatile organic chemical, SOC = synthetic organic chemical

Figure 1. USFW Kootenai National Wildlife Refuge Delineation



This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

USFW Kootenai National Wildlife Refuge should focus source water protection activities on maintaining proper storage of pesticides, fertilizers and petroleum products near the well. If these products are used on lawns or agricultural areas within the source water area they should be used properly and conservatively. Refuge managers and employees may want to establish a dialogue related to the proper use and storage of possible contaminants. Source water protection activities should be aimed at long-term management strategies even though these strategies may not yield results in the near term.

For assistance in developing source water protection strategies please contact Alan Miller at the Coeur d’Alene regional IDEQ office at (208)769-1422.

*While a PWS well may have been in compliance with construction standards at the time it was drilled, current construction standards are more stringent. The Idaho Department of Water Resources Well Construction Standards Rules (1993) require all PWSs to follow IDEQ standards as well as their own. IDAPA 58.01.08.550 requires that PWS follow the Recommended Standards for Water Works (1997) during construction.

DEQ website:

<http://www.deq.state.id.us>

Attachment A

USFW Kootenai National Wildlife Refuge Susceptibility Analysis Worksheet

Ground Water Final Susceptibility Scoring

0-5 = Low Susceptibility

6-12 = Moderate Susceptibility

13-18 = High Susceptibility

1. System Construction		SCORE			
Drill Date	09/15/1989				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	1990			
Well meets current DEQ construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		5			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	YES	0			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		4			
3. Potential Contaminant / Land Use - ZONE 1A (50' radius)		IOC Score	VOC Score	SOC Score	Microbial Score
Land Use Zone 1A	DRYLAND AGRICULTURE	1	1	1	1
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Zone 1A	NO	NO	NO	NO	NO
Total Potential Contaminant Source/Land Use Score - Zone 1A		1	1	1	1
Potential Contaminant / Land Use - ZONE 1B (1000' radius)					
Contaminant sources present (Number of Sources)	YES	0	2	2	7
(Score = # Sources X 2) 8 Points Maximum		0	4	4	8
Sources of Class II or III leachable contaminants or	YES	0	2	2	
4 Points Maximum		0	2	2	
Zone 1B contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use Zone 1B Greater Than 50% Non-Irrigated Agricultural		2	2	2	2
Total Potential Contaminant Source / Land Use Score - Zone 1B		2	8	8	10
Cumulative Potential Contaminant / Land Use Score		3	9	9	11
4. Final Susceptibility Score		10	11	11	13
5. Final Well Ranking		Moderate	Moderate	Moderate	High

POTENTIAL CONTAMINANT INVENTORY

LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as **ASuperfund** is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System)

– Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.